

ON TWO NEW SPECIES OF FISHES FOUND IN JAPAN¹

KIYOMATSU MATSUBARA (松原 喜代松)

THREE TEXTFIGURES

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Through the courtesy of Dr. Yoshiichi Matsui, chief-expert of the Toyohashi Branch of the Fisheries Experimental Station, a number of specimens of fish obtained by motor-trawlers near the sea-coast of Owase, Mie-ken, at depths ranging from 100 to 200 fathoms, from October, 1932 to March, 1933, have of late come under my examination. They comprise many interesting forms, including two new species which are described in the present paper.

It is my pleasant duty to return herewith my gratitude to Dr. Y. Matsui for his favour of valuable material, and to Dr. Arata Terao for his encouragement and valuable help offered to me in the prosecution of the present study.

Percis matsuii, sp. nov.

New Japanese name: Tonbo-inugoti.

D. V.-5; A. 5; P. 11; V. 1.2; C. 15; B. 6; Lateral line plates 40.

Head 4.33 in body length; depth at first dorsal origin 7.67; same between dorsals 11.50; width at pectorals 5.87; length of caudal peduncle 3.45.

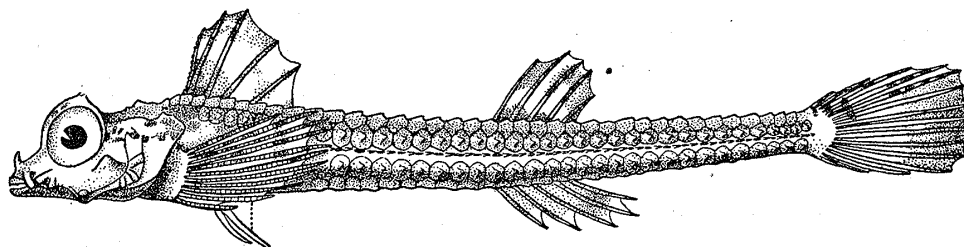


Fig. 1. *Percis matsuii*, n. sp. $\times \frac{2}{3}$

Orbit 3.19 in head; snout 3.54; length of nasal tube 7.98; inter-orbital space 3.36; same in front of eye 4.09; same at posterior border

¹ Contributions from the Zoological Laboratory, Imperial Fisheries Institute, Tôkyô, No. 53.

of eye 2.77; maxillary 3.75; its distal breadth 16.0; width of preorbital 6.25; postorbital part of head 2.28; depth of caudal peduncle 4.56; pectoral 1.20; longest dorsal spine (second spine) 1.92; penultimate spine 2.29; longest dorsal ray (second ray) 1.99; longest anal ray (fourth ray) 1.99; ventral 2.29; caudal 1.15.

Body very elongate, compressed, octagonal in cross section; the region of shoulder girdle prominent. Occipital region and dorsal origin not elevated; ventral outline nearly straight. Vent situated anteriorly at about $1/7$ distance from ventral origin to anal. Distance between origin of ventral and that of anal very long, 2.82 in body length; same from vent to anal 3.29. Length of caudal peduncle somewhat longer than the distance between dorsals.

Head short, its broadest part much wider than the depth. Eye rather large, high up, with prominent supraocular ridge, much higher than the nuchal region; supraocular spine triangular and blunt, directed upward; no second supraocular spine. Interorbital space deeply concave, with a pair of small, blunt spines. Nasal spines sharp, long, slightly curved backward. Occipital ridges low, heavy, forming a rather prominent tubercle in parietal region; space between ridges slightly concave. Post-temporal region with a blunt spine, a low but stout longitudinal ridge running between it and posterior margin of orbit. No spine above the base of the upper pectoral ray. Preorbital with two ridges, the former directed forward and downward, the latter downward, each ending in a short, broad, plate-like blunt spine; three similar spines on posterior margin of preopercle. Cheek with a prominent tubercle, ending in a blunt spine. A pair of large membraneous nasal tube, subequal to the diameter of pupil. Lower jaw with four pairs of mucous pores, anterior three pairs provided with flap-like borders. Jaws equal; mouth small, the maxillary extending to anterior margin of orbit; angle of jaw prominent, tubercular. Teeth on jaws and vomer very small, villiform; palatine not toothed. Gill-membranes broadly united, free from the isthmus. Body covered with bony plates, each provided with a blunt spine; dorsal plates 37, 2 of which before first dorsal, 7 below first dorsal, 10 between the dorsals, 5 below second dorsal and 13 on caudal peduncle; supero-lateral plates 36; infero-lateral 32; lateral line plates 40, very small and blunt; ventral plates 33, very smooth, 15 of which before anal, 5 on anal, 13 behind anal. Head without bony plates.

Dorsals far apart, the distance between them much longer than head and about twice as long as the base of first dorsal, though

measured from the basal end of adnate membrane of first dorsal. First dorsal inserted a short distance behind occiput; anterior margin of first dorsal spine serrated, the second spine the longest, though slightly longer than third spine. Second dorsal and anal facing each other, the base of the former not shorter than that of the latter. Posterior margin of caudal roundish.

Color in formalin light brown, upper part of head and body clouded with greyish brown. First dorsal pale, its basal and distal parts of anterior four spines dark. Anal fin greyish, edged with white. Posterior half of caudal black. Pectoral white, its upper half marbled with black spots. Ventral pale.

The foregoing description is based upon a male specimen, measuring 166.0 mm in total length.

The variations observed in four other specimens run as follows:

Total length in mm	160.5	146.0	135.0	115.0
Sex	♀	♀	♂	♀
D.....	V-5	V-5	V-5	V-5
A.....	5	7	6	6
P.	10	12	11	12
Dorsal plates	38	38	39	39
Supero-lateral plates	36	37	36	37
Infero-lateral plates	34	32	32	37
Lateral line plates	40	38	38	38
Ventral plates	31	30	30	34
Head in body length	4.19	4.11	4.15	4.25
Depth in body length.....	6.77	7.56	7.47	8.89
Distance between ventral origin and anal in body length	2.62	2.99	3.13	3.03
Distance between ventral origin and vent in body length	16.54	17.75	20.36	16.86
Distance between vent and anal in body length	3.42	3.60	3.86	3.84
Length of base of first dorsal in distance between dorsals	1.97	2.31	1.70	1.92
Orbit in head	3.37	3.24	3.14	2.95
Snout in head	3.52	3.43	3.46	3.54
Interorbital space in head	3.20	3.35	3.07	2.95
Depth of caudal peduncle in head	4.64	4.58	4.43	4.51
Longest dorsal spine in head.....	1.94	2.06	1.93	2.11

The present species is rather closely allied to *Percis japonica* (Pallas)² but can be easily distinguished from it by the following characters:

² Vide: Jordan, D. S. and B. W. Evermann, 1898. The fishes of North and Middle America, 2, p. 2034.

P. matsuii

1. Parietal region with a rather prominent tubercle
2. Nuchal region and origin of dorsals not elevated
3. Supraorbital region elevated, much higher than nuchal region
4. Second dorsal and anal facing each other
5. Tip of pectoral falling short of initial of anal by a distance subequal to half the length from origin of pectoral to anal
6. Distance between ventral origin and anal very long, about 6-7 times the distance between ventral origin to vent
7. Distance between dorsals very long, about twice as long as the base of the first dorsal
8. Depth of body 6.77-8.89 in body length
9. Dorsal rays V-5
10. Anal rays 5-7

P. japonica

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|---|---|
| <ol style="list-style-type: none"> 1. Parietal region with a rather prominent tubercle 2. Nuchal region and origin of dorsals not elevated 3. Supraorbital region elevated, much higher than nuchal region 4. Second dorsal and anal facing each other 5. Tip of pectoral falling short of initial of anal by a distance subequal to half the length from origin of pectoral to anal 6. Distance between ventral origin and anal very long, about 6-7 times the distance between ventral origin to vent 7. Distance between dorsals very long, about twice as long as the base of the first dorsal 8. Depth of body 6.77-8.89 in body length 9. Dorsal rays V-5 10. Anal rays 5-7 | <ol style="list-style-type: none"> 1. without prominent tubercle 2. much elevated 3. lower, not higher than nuchal region 4. Anal inserted a little before dorsal 5. by a distance subequal to 1/5 to 1/3 the length of pectoral to anal 6. very short, shorter than 3 times the distance between ventral origin and vent 7. subequal to the length of the base of first dorsal 8. About $5\frac{1}{2}$ in body length 9. VI-7 10. 8 |
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Coelorhynchus hubbsi, sp. nov.

New Japanese name: Moyô-hige

Dorsal, 1, 11; ventral, 7; pectoral, 17; scales in series between lateral line and origin of second dorsal 6 (excluding lateral line scale). Head 4.07 in total length; depth 9.03.

Dorsal contour of snout rather strongly concave and nearly straight from anterior end of orbit to the dorsal fin; ventral contour feebly convex. Depth of body 2.33 in head; width of body over pectoral bases 1.30 in depth.

Head compressed, its sides vertical, the width somewhat shorter than its greatest depth. Snout 2.21 in head, its sides strongly convex, straight, and very narrow as far backward from tip as a distance equal to half the length of orbit; tip of snout strong and pungent. Suborbital ridge rather strong, continuous with preopercular angle. Occipital ridges parallel; suborbital ridge not continuous with the postorbital ridge, slightly interrupted above the posterior margin of orbit. Posterior margin of preopercle projected posteriorly as a rounded lobe; margin of subopercle sharply projects posteriorly at lower angle. Orbit oblong, wider than high, about two-thirds the height, measuring 1.66 times in snout and 3.67 in head. Least interorbital space 1.22 in orbit. Mouth small, the cleft extending to below the middle of the eye; maxillary

4.47 in head; teeth in villiform bands, the outer premaxillary series enlarged. Barbel rather short and slender, about 2.6 in orbit. Six branchiostegals; gill-membranes attached to isthmus.

Pyloric caeca 24, slightly shorter than orbit.

Distance from center of anus to anal origin about 4 in orbit; distance from ventral origin to center of anus 1.86 in head; distance from tip of lower jaw to ventral 1.55. No thoracic scaleless pit.

Scales rather small, those on body bear usually eight nearly parallel ridges, the median ridge not enlarged; the scales on head and belly smaller than those on the sides of body. Underside of head naked; the scales on the median rostral ridge not specialized.

Distance between the dorsals very short, just one-half as long as the base of first dorsal. First dorsal spine small and rudimentary; second dorsal spine not serrated nor filamentous; first dorsal fin reaches the base of ninth ray of second dorsal when fin is depressed. Outer ventral ray filamentous, but not reaching the anal.

Light purplish brown in color; three dark longitudinal bands present: first one along the base of dorsal fins, the broadest portion

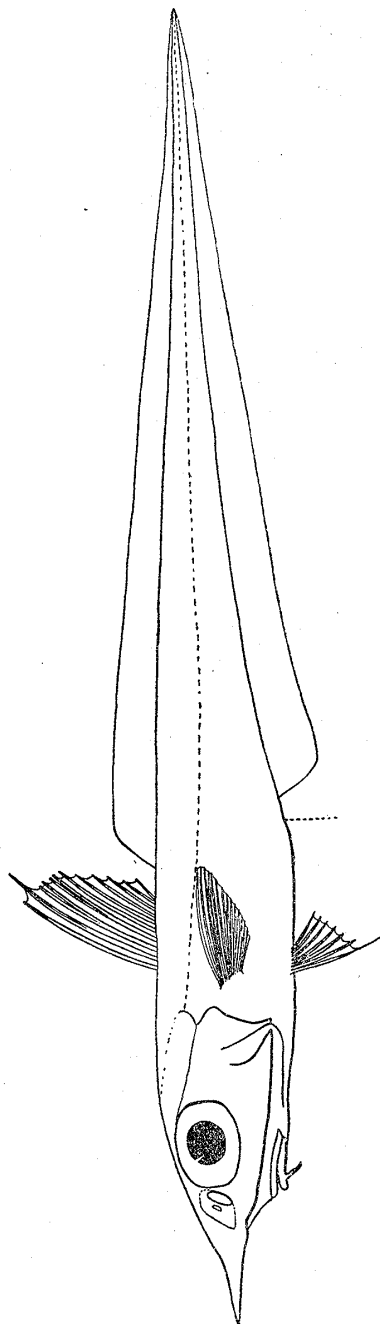


Fig. 2. *Coelorhynchus hubbsi*, n. sp. $\times \frac{8}{3}$

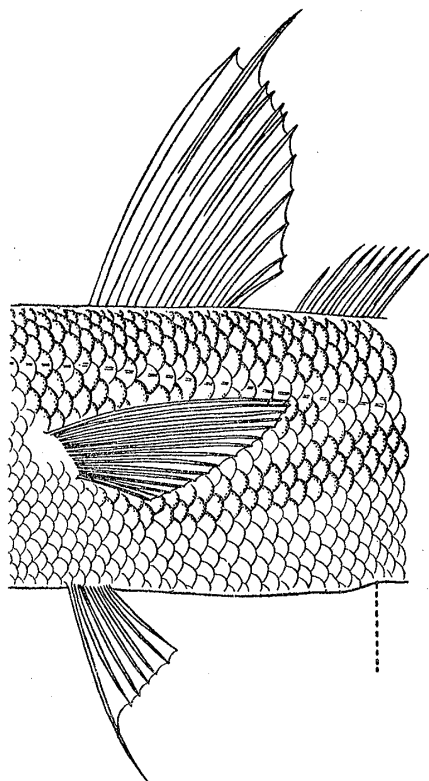


Fig. 3. *Coelorhynchus hubbsi*,
n. sp. $\times \frac{1}{3}$

about half as long as orbit; the second one above the pectoral, somewhat longer than pectoral fin; the third one from axil of pectoral, but not reaching the tip of the tail; these bands become gradually narrower posteriorly. Distal one-third of first dorsal blackish. Pectoral and ventral somewhat dark.

The present species is described from a male specimen, measuring 224 mm in total length. It is similar to *C. japonicus* (Temminck et Schlegel)³ in having 6 rows of scales in a series from origin of second dorsal to lateral line, but differs from it in having the following characters: Under side of head naked; interspace between dorsals very short, about one-half as long as the base of first dorsal fin; scales on sides marked with eight nearly parallel ridges; ventrals not extending to vent; occipital ridges nearly parallel.

³ Vide: Temminck, C. J. and H. Schlegel, 1846. Fauna Japonica, Poiss., p. 256. pl. 112, fig. 2.